

# Hepatitis Headlines

Issue 4  
March  
2014

Viral Hepatitis Surveillance and Prevention Unit, Michigan Department of Community Health

[www.michigan.gov/hepatitis](http://www.michigan.gov/hepatitis)

## New Unit e-mail Address

Last newsletter we introduced our re-designed webpage, [www.michigan.gov/hepatitis](http://www.michigan.gov/hepatitis).

We now have created our own e-mail address for any hepatitis related questions or comments. If you have a general inquiry or perhaps a data request, please feel free to contact the Hepatitis Unit at [MDCH-Hepatitis@michigan.gov](mailto:MDCH-Hepatitis@michigan.gov)

## Injection Safety Webinar

Just as a reminder, a webinar on safe injection practices (including safe use of blood glucose monitoring equipment) is still available on the MDCH Viral Hepatitis website [here](#). We hope that healthcare workers who view the training have a better understanding of the [CDC's Safe Injection practice guidelines](#) and take steps to ensure safe healthcare for patients, especially in regard to preventing healthcare-associated transmission of viral hepatitis infections.



## In this issue

- Latest HCV Treatment P.1
- New E-mail Address
- Hep Prevention Workgroup P.2
- Hepatitis Over-reporting
- MDOC Case Follow-up P.3
- Over-Reporting (cont.)
- HCV Treatment (cont.) P.4
- Events and Links

## The latest weapon in the fight against HCV

On December 6<sup>th</sup>, 2013 the [US Food and Drug Administration \(FDA\) approved](#) Gilead's polymerase inhibitor SOVALDI (sofosbuvir) for the treatment of Hepatitis C infections. Sovaldi represents a major improvement over older HCV treatment regimens. The American Association for the Study of Liver Diseases (AASLD) recently updated their [HCV treatment guidelines](#), revealing Sovaldi as the drug of choice for HCV treatment regimens.

HCV Genotype	Treatment <sup>a</sup>	Recommended / Approved	Duration	SVR <sup>b</sup>	Clinical Trial
1	Sofosbuvir + PEG Interferon alfa + ribavirin <sup>c</sup>	AASLD / FDA	12 weeks	90%	NEUTRINO
2	Sofosbuvir + ribavirin <sup>c</sup>	AASLD / FDA	12 weeks	97%	FISSION
3	Sofosbuvir + ribavirin <sup>c</sup>	AASLD / FDA	24 weeks	93%	VALENCE
4	Sofosbuvir + PEG Interferon alfa + ribavirin <sup>c</sup>	AASLD / FDA	12 weeks	96%	NEUTRINO
5 or 6	Sofosbuvir + PEG Interferon alfa + ribavirin <sup>c</sup>	AASLD	12 weeks	100%	NEUTRINO

a - alternative treatment regimens may exist for those who are PEG-interferon ineligible

b - Sustained Virologic Response in treatment naïve patients

c - Dose of ribavirin is weight-based (<75 kg = 1000 mg and ≥75 kg = 1200 mg). The daily dose of ribavirin is administered orally in two divided doses with food

As you can see from the table above, Sovaldi cannot be taken alone and is used in combination with ribavirin and PEG-interferon, depending on the patient's genotype. The sustained virologic response (SVR) during clinical trials with these regimens was near 90% for treatment-naïve individuals, a drastic improvement from previous drug regimens. SVR rates were not quite as high for genotype 3 patients who were treatment experienced and cirrhotic (60%, [VALENCE](#)). However, the major advantage of Sovaldi over previous treatments with protease inhibitors [Boceprivir](#) and [Telaprevir](#), is that there is not always a need to administer PEG-interferon. PEG-interferon is an injectable medication that commonly causes [side effects](#) such as fever, fatigue, and depression. [continued on page 4](#)

Michigan Department of Community Health



Rick Snyder, Governor  
James K. Haveman, Director

**KNOW  
MORE  
HEPATITIS™**



## Over-reporting of Chronic Viral Hepatitis Cases

According to current CDC/CSTE case definitions, an individual with chronic HBV or HCV should only be counted as a case once, though the person may be repeatedly tested, during his or her lifetime. Subsequent reports on the same individual are therefore repeats and should not be counted as new case in the Michigan Disease Surveillance System (MDSS). Though MDSS has mechanisms to identify and de-duplicate patients and cases, we elected to perform additional data quality checks to ensure the accuracy and reliability of chronic viral hepatitis surveillance numbers reported in 2013.

To accomplish this, 2013 chronic HBV and HCV cases from MDSS were matched to historical MDSS data extracts (2004-2012) using Link Plus software. The matched cases were then manually reviewed to determine if they had been previously reported. Efforts were then made to de-duplicate the redundant cases. [continued on page 3](#)



## The MDCH Hepatitis B and C Prevention Workgroup

Of the five unrelated hepatotropic viruses, Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) are among the most common in Michigan and the US. Nationally, it is estimated that [800,000-1.4 million](#) and [2.7-3.9 million](#) people are infected with HBV and HCV, respectively. Chardé Fisher, the MDCH Viral Hepatitis Prevention Coordinator, is tasked with leading MDCH’s viral hepatitis prevention efforts; a monumental task for one person as there are numerous populations at increased risk of acquiring or carrying HBV or HCV and the methods of prevention for the two viruses are not the same. For instance, HCV is most commonly associated with [intravenous drug use](#) and [disproportionality affects African-Americans](#). HCV prevention efforts typically focus on [harm-reduction](#). A vaccine for HCV does not exist, however [treatments are available that can rid the body of the virus](#). Conversely, [HBV disproportionality affects Asian-Americans](#), is [more commonly associated with sexual contact](#), can be [transmitted from mother-to-child](#) and is preventable with the [HBV vaccine](#). As a result of the heterogeneity in the risk factors for hepatitis and the differing methods of prevention, multiple groups have a stake in prevention. Fisher, and collaborators in the Communicable Disease Division’s Viral Hepatitis Unit, led an effort to bring State Government viral hepatitis prevention partners together to form the Hepatitis B and C Prevention Workgroup.

	Hepatitis A	Hepatitis B	Hepatitis C	Hepatitis D	Hepatitis E
<b>Source of Virus</b>	Feces	Blood / some body fluids	Blood / some body fluids	Blood / some body fluids	Feces
<b>Transmission</b>	Fecal-oral	Percutaneous / permucosal	Percutaneous / permucosal	Percutaneous / permucosal	Fecal-oral
<b>Chronic Infection</b>	No	Yes	Yes	Yes	No
<b>Prevention</b>	<ul style="list-style-type: none"> <li>Pre / post exposure immunization</li> <li>Hand Hygiene</li> <li>Total Ig</li> </ul>	<ul style="list-style-type: none"> <li>Pre / post exposure immunization</li> <li>HBIG</li> <li>Risk Behavior modification</li> </ul>	<ul style="list-style-type: none"> <li>Risk Behavior modification</li> </ul>	<ul style="list-style-type: none"> <li>Pre / post exposure immunization with HBV vaccine</li> <li>Risk Behavior modification</li> </ul>	<ul style="list-style-type: none"> <li>Access to clean drinking water</li> <li>Hand hygiene</li> </ul>
<b>Vaccine</b>	Yes	Yes	No	No	No
<b>2013 Cases*</b>	97	1,323	7,245	3	4

\*includes both acute and chronic cases; final 2013 case counts subject to change. Adapted: [Overview of Viral Hepatitis](#)

The workgroup hopes to share new strategies to cooperatively design and execute new projects to raise awareness of viral hepatitis and prevent new infections. The group’s membership consists of representatives from the Viral Hepatitis Unit, the HIV/AIDS Surveillance Unit, The HIV/AIDS Prevention and Intervention Section (HAPIS), the Division of Immunization, the Michigan Department of Corrections, the Michigan Department of Education, and the Behavioral Health and Developmental Disabilities Administration. MDCH data will be used to identify and evaluate projects and initiatives. For example, epidemiological statistics show a [375% increase in young adult HCV infections in Michigan between 2004 and 2012](#). The increase has been [correlated to increases in heroin use among youth](#), which is often [preceded by prescription drug abuse](#). A potential task for the work group could be to determine ways to bring substance abuse and viral hepatitis education and resources to students through the Michigan Department of Education. Ultimately, we hope the establishment of this workgroup will aid in the creation of more effective viral hepatitis prevention strategies that will help protect and promote the health of the Michigan public. --Chardé Fisher and Emily Goerge

## Chronic HCV Follow-up by the Michigan Department of Corrections

Many acute and chronic hepatitis C cases reported to the Michigan Department of Community Health (MDCH) come from the Michigan Department of Corrections (MDOC). Every inmate that enters the Department of Corrections is screened for HIV and Hepatitis C. In some years MDOC has reported over 1,000 chronic HCV cases (~10% of all Michigan cases). MDCH relies on MDOC staff to obtain clinical, demographic, and risk information for each case of chronic hepatitis C. These data help measure the burden of disease and inform prevention efforts by identifying the most common risk factors for HCV acquisition. Recent MDCH surveillance efforts have pushed for expanded collection of chronic HCV risk information. This is especially important in high-burden jurisdictions.

The results of the MDOC efforts can be seen in the table below. Cases reported from the MDOC were extracted from the MDSS for years 2009-2013. A completed case report form was defined as having answered 'yes', 'no', or 'unknown' (as opposed to being left blank) to the epidemiologic risk information questions. In an attempt to simplify the analysis, the question about injecting drug use was selected as the indicator for completion as, historically, it is the most frequently answered question.

MDOC collected information on 179 more cases than in the previous year (an 895% increase). The internal changes made by MDOC staff clearly had an impact on the collection of data.

MDOC Chronic Hepatitis C Epidemiologic Risk Information Completion, 2009-2013

	2009	2010	2011	2012	2013
<b>Risk Info Complete</b>	14	5	3	20	199
<b>Total Cases</b>	834	564	738	1032	786
<b>Percent Completion</b>	1.7%	0.9%	0.4%	2%	25%

In mid-2013 MDCH viral hepatitis surveillance staff met with MDOC infection control to discuss strategies for improving chronic HCV follow-up and collection of HCV risk information. Following these discussions MDOC incorporated the core questions found on the chronic hepatitis C case report form into their electronic medical record. This encouraged providers to address HCV risk factor information as part of the patient interview. The essential information needed to complete the case report form is now easily accessible when MDOC cases are entered into MDSS by the infection control staff.

We wanted to highlight this success story and thank Summer Laughhunn and the MDOC nurses and providers for their efforts. As a jurisdiction, MDOC now completes nearly as many HCV case reports as any other jurisdiction in the State. The MDOC implemented these changes in August 2013, so we're very eager to see the impact their process changes have on a full year of cases reported in 2014!



--Geoff Brousseau and Emily Goerge



## Over-reporting

continued from page 2

It was determined that 223 out of 1362 (16.4%) HBV cases and 520 out of 7279 (7.1%) HCV cases had been previously reported to the MDSS in 2013. For HBV specifically, over-reporting occurred most frequently in women of child-bearing age where 142 of 504 cases (28.2%) were duplicates. By comparison, only 82 of the 866 (9.5%) other HBV cases were duplicates.

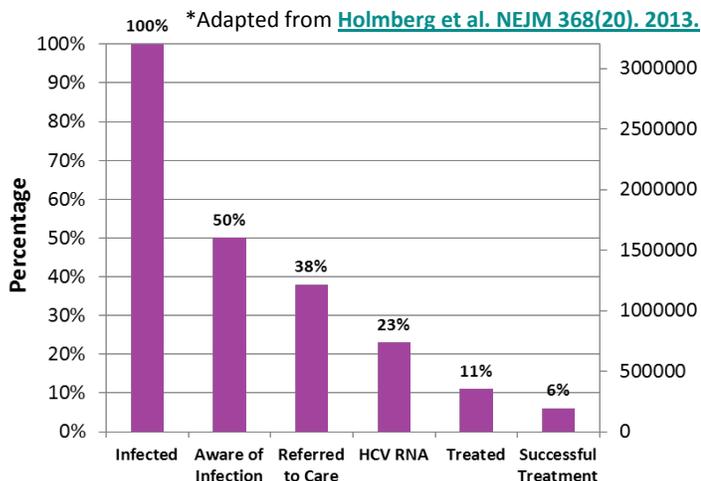
We identified a substantial over-reporting of chronic viral hepatitis cases in 2013. These duplications may be the result of human error or surveillance system errors in identifying duplicates (e.g. patient name has changed or the addition of a prisoner ID number). Resource allocation will be considered to conduct quality assessments to reduce the over-reporting of cases and ensure accurate surveillance data.

--Seth Eckel

## SOVALDI continued from page 1

Since Sovaldi and ribavirin are both oral medications, genotype 2 and 3 patients have the luxury of a much anticipated all-oral treatment for HCV. Additional Gilead products hope to deliver all-oral regimens for other HCV genotypes in the [near future](#). Another important advantage is that Sovaldi only needs to be taken once daily and without any dietary requirements (previous direct acting antivirals required four pills to be taken three times per day with food). Sovaldi can also be used to treat HIV/HCV infected patients as well as those with liver cirrhosis and/or hepatocellular carcinoma. In addition, treatment duration has been reduced to 12 weeks for all genotypes except genotype 3, a far cry from past 6 to 12-month treatment regimens. Sovaldi also has less drug interactions, has a high barrier to resistance, and doesn't require response-guided therapy.

### Current HCV Treatment Cascade



So with greatly improved SVRs, reduced treatment durations, fewer side effects, broad effectiveness in difficult to treat patients (i.e. previously failed treatment, cirrhotic), and ease and convenience of use, what are the negatives? Price. Sovaldi costs \$1,000 per pill. Extrapolating that over 12 to 24 weeks means costs of \$84,000 to 128,000 and that doesn't count the cost of testing, additional diagnostics, doctor visits and ribavirin and PEG-interferon (if necessary).

The cost is prohibitive, certainly to those without health insurance coverage. And many insurance providers have yet to determine whether or not they will cover the costs. The Michigan Medicaid Board isn't scheduled to review the product until June 2014. Gilead's stance, is that the cost of the treatment pales in comparison to that of liver transplant and immunosuppressive drugs.

Unfortunately, all too few are currently being diagnosed, linked to care, and treated. Hopefully, breakthrough treatments like Sovaldi can help turn the tide against HCV infection.



--Kim Kirkey and Joe Coyle



## Save the Date

3/28 - [Michigan Epi Conference](#)

5/8-5/9 - [MSIPC Spring Conference](#)

5/15 - [MDCH Communicable Disease Conference](#)

## Helpful Links

[www.michigan.gov/hepatitis](http://www.michigan.gov/hepatitis)

[www.michigan.gov/cdinfo](http://www.michigan.gov/cdinfo)

[www.michigan.gov/hai](http://www.michigan.gov/hai)

[CDC Hepatitis](#)

[Know More Hepatitis Campaign](#)

[Know Hepatitis B Campaign](#)

[CDC Hepatitis Risk Assessment](#)

[Hepatitis A](#)

[Hepatitis B](#)

[Hepatitis C](#)

[Institute of Medicine Report on Prevention and Control of Hepatitis in the US](#)

[One and Only Campaign](#)

[Injection Safety Resources](#)

[Hepatitis Occupational Exposure Guideline](#)

[Blood Glucose Monitoring](#)

[ACIP Hepatitis B Vaccination Guide](#)

ISSUE #4 March 2014 (Issued 3/31/2014)

4

Joseph R. Coyle, MPH

Viral Hepatitis Unit Manager, Michigan Department of Community Health

201 Townsend Capitol View Building, Floor 5

Lansing, MI 48913

Phone: (517) 335-8165 Fax: (517) 335-8263 E-mail: [MDCH-Hepatitis@michigan.gov](mailto:MDCH-Hepatitis@michigan.gov)

